

sub
D

1. Fusion protein which contains a stabilizer peptide derived from the first 47 amino acids of the N-terminal end of the P64K antigen of *Neisseria meningitidis* B:4:P1.15 fused to an heterologous protein.
2. Fusion protein according to claim 1 wherein the heterologous protein is an outer membrane protein of *Neisseria meningitidis*.
3. Fusion protein according to claim 2 wherein the heterologous protein is the Opc(5c) protein of *Neisseria meningitidis* or the PorA protein of *Neisseria meningitidis*.
4. Fusion protein according to claim 1 wherein the heterologous protein are multiepitopic polypeptides which include several copies of the central part of the variable region 3 (V3) from the gp 120 protein from HIV-1.
5. Fusion protein according to claim 4 wherein the multiepitopic polypeptides are the polypeptides TAB4 and/or TAB9.
6. Method for producing heterologous proteins as fusion polypeptides in *E. coli* wherein a peptide derived from the first 47 amino acids of the N-terminal end of the P64K antigen of *Neisseria meningitidis* B:4:P1.15 is used as stabilizer for the expression of said heterologous protein and a monoclonal antibody specific for the stabilizer is used for the immunodetection of any protein fused to it.
7. Method according to claim 6 wherein the amino acid sequence of the stabilizer peptide corresponds essentially to the sequence of Id. Seq. No. 6.

10	20	30	40	47
----	----	----	----	----

MVDKRMALVE LKVPDIGGHE NVDIIAVEVN VGDTIAVDDT LITLDLE
8. Method according claim 6 wherein the monoclonal antibody used for the purification of the fusion protein is designated as 448/30/7.
9. Method according to claim 6 wherein the expressed heterologous protein is any protein that could be employed as immunogen in a vaccine preparation.
10. Method according to claim 6 wherein the expressed heterologous protein are the multiepitopic polypeptides TAB4 and/or TAB9, or the outer membrane proteins Opc(5c) or PorA of *Neisseria meningitidis*.
11. Monoclonal antibody 448/30/7 which is specific for the stabilizer peptide derived from the first 47 amino acids of the N-terminal end of the P64K antigen of *Neisseria meningitidis* B:4:P1.15 and it is used for the immunodetection and purification of any protein fused to said stabilizer peptide.
12. Expression vector of fusion proteins in *E. coli* which contains a sequence encoding for a stabilizer peptide derived from the first 47 amino acids of the N-terminal end of the P64K antigen of *Neisseria meningitidis* B:4:P1.15 under the control of the tryptophan promoter of *E. coli* followed by restriction sites XbaI, EcoRV and BamHI for the cloning in frame of DNA fragments encoding for polypeptides of interest and the phage T4 terminator as the

BEST AVAILABLE COPY

19

transcription termination signal, as well as the ampicillin resistance gene as selection marker.

13. Expression vector according to claim 12 for the cloning in frame of DNA fragments encoding for outer membrane proteins of *Neisseria meningitidis*.

14. Expression vectors according to claim 13 denominated pM-80 pM-82.

15. Expression vector according to claim 12 for the cloning in frame of DNA fragments encoding for multiepitopic polypeptide which includes copies of the central part of the variable region 3 (V3) belonging to gp 120 protein from HIV-1.

16. Expression vectors according to claim 15 denominated pTAB4 and pTAB9.

17. Recombinant strain of *E. coli* which results of the transformation of any *E. coli* K12 strain with any of the expression vectors of claims 12 to 16.

18. Use of the fusion protein of claims 1 to 8 in vaccine preparations to be used in human or animals.

19. Vaccine preparation which contains a fusion protein of any of the claims 1 to 8 as well as a suitable adjuvant.

CFR
126

08930917 "091697"